

Mentoring for students: school-based (with volunteer costs)

Benefit-cost estimates updated June 2016. Literature review updated June 2014.

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our [Technical Documentation](#).

Program Description: In school-based mentoring programs, mentors and students meet weekly at school for one-to-one relationship building and guidance. Mentors are adult volunteers, school staff, or high school students. Community-based organizations coordinate with school staff and provide mentors with training and oversight. The programs included in this analysis are (in no particular order) the national Student Mentoring Program, Big Brothers Big Sisters, Project CHANCE, SMILE, and other, locally developed programs.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	\$8,312	Benefit to cost ratio	\$14.58
Participants	\$13,814	Benefits minus costs	\$24,782
Others	\$4,805	Chance the program will produce	
Indirect	(\$324)	benefits greater than the costs	72 %
<u>Total benefits</u>	<u>\$26,607</u>		
<u>Net program cost</u>	<u>(\$1,825)</u>		
Benefits minus cost	\$24,782		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2015). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our [Technical Documentation](#).

Detailed Monetary Benefit Estimates Per Participant

Benefits from changes to: ¹	Benefits to:				
	Participants	Taxpayers	Others ²	Indirect ³	Total
Crime	\$0	\$73	\$175	\$36	\$284
Labor market earnings associated with high school graduation	\$18,430	\$8,369	\$8,436	\$0	\$35,235
Labor market earnings associated with test scores	(\$2,719)	(\$1,235)	(\$1,206)	\$0	(\$5,159)
Health care associated with educational attainment	(\$547)	\$2,001	(\$2,184)	\$999	\$270
Costs of higher education	(\$1,350)	(\$897)	(\$416)	(\$447)	(\$3,110)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$912)	(\$912)
Totals	\$13,814	\$8,312	\$4,805	(\$324)	\$26,607

¹In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

²"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

³"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

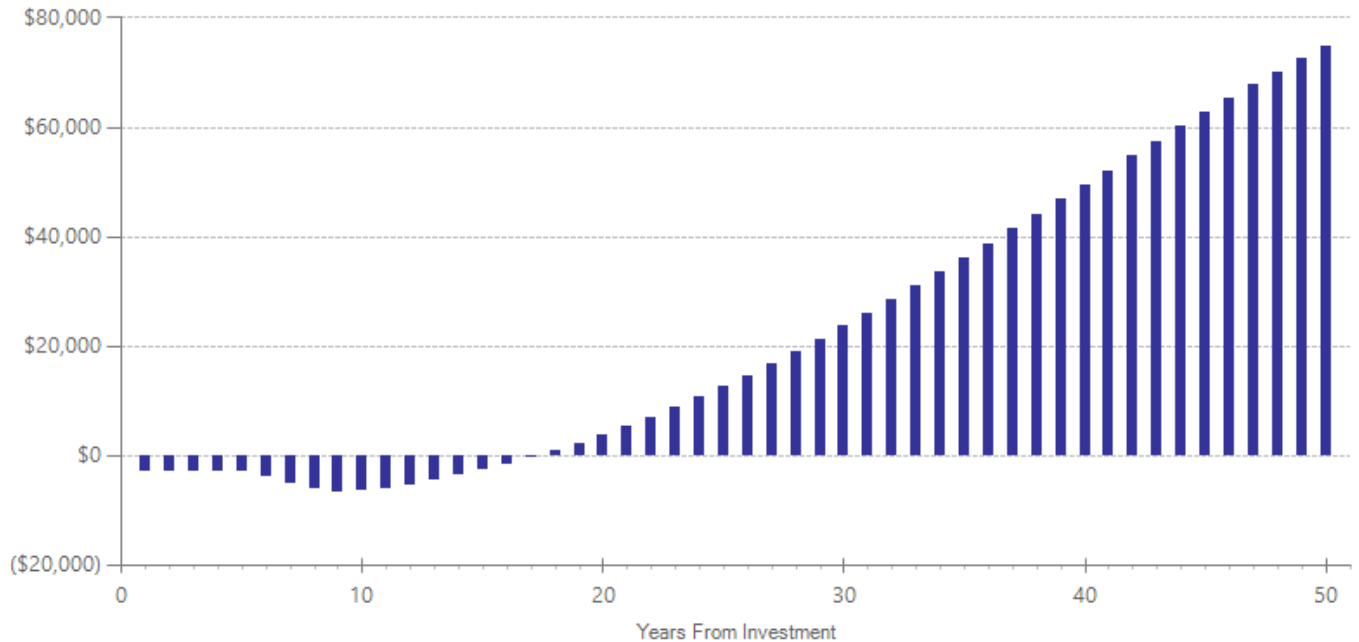
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	\$1,539	2005	Present value of net program costs (in 2015 dollars)	(\$1,825)
Comparison costs	\$0	2005	Cost range (+ or -)	10 %

The effects of this program represent one year of mentoring. Per-participant cost estimates are based on the Big Brothers/Big Sisters program as described in Herrera, C., Grossman, J.B., Kauh, T.J., Feldman, A.F., & McMaken, J. (2007). *Making a difference in schools: The Big Brothers Big Sisters school-based mentoring impact study*. Philadelphia, PA: Public/Private Ventures. The cost of volunteer time is based on the Office of Financial Management State Data Book average adult salary for 2012, multiplied by 1.44 to account for benefits. In the evaluated school-based programs, mentors meet with mentees, on average, once per week during the school year. Approximately half of the mentors in the evaluated programs were high school students and were not included in the volunteer cost estimates. Cost estimates exclude donated space.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our [Technical Documentation](#).

Detailed Annual Cost Estimates Per Participant



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in non-discounted dollars to simplify the “break-even” point from a budgeting perspective. If the dollars are negative (bars below \$0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach \$0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above \$0, the benefits of the program exceed the initial investment.

Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
			First time ES is estimated			Second time ES is estimated				
			ES	SE	Age	ES	SE	Age	ES	p-value
Crime	2	1694	-0.013	0.049	14	-0.013	0.049	14	-0.013	0.787
High school graduation	1	66	0.262	0.265	18	0.262	0.265	18	0.689	0.029
Illicit drug use before end of middle school	1	531	0.109	0.145	14	0.109	0.145	14	0.109	0.321
Grade point average	5	2009	0.024	0.032	14	0.024	0.032	14	0.026	0.409
School attendance	4	1771	0.074	0.038	14	0.074	0.038	14	0.121	0.063
Office discipline referrals	2	547	-0.256	0.123	14	-0.256	0.123	14	-0.509	0.137
Test scores	3	3489	-0.034	0.029	14	-0.029	0.032	17	-0.034	0.243

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

Citations Used in the Meta-Analysis

- Bernstein, L., Rappaport, C.D., Olsho, L., Hunt, D., Levin, M. (with Dyou, C., . . . Rhodes, W.) (2009). *Impact evaluation of the U.S. Department of Education's Student Mentoring Program: Final report*. Washington, DC : National Center for Education Evaluation and Regional Assistance.
- Converse, N., & Lignugaris-Kraft, B. (2008). Evaluation of a school-based mentoring program for at-risk middle school youth. *Remedial and Special Education, 30*(1), 33-46.
- DeSocio, J., VanCura, M., Nelson, L.A., Hewitt, G., Kitzman, H., & Cole, R. (2007). Engaging truant adolescents: Results from a multifaceted intervention pilot. *Preventing School Failure, 51*(3), 3-9.
- Flaherty, B.P. (1985). An experiment in mentoring for high school students assigned to basic courses. *Dissertation Abstracts International, 46*(02), 352A.
- Herrera, C., Grossman, J.B., Kauh, T.J., & McMaken, J. (2011). Mentoring in schools: An impact study of Big Brothers Big Sisters school-based mentoring. *Child Development, 82*(1), 346-361.
- Karcher, M.J. (2008). The study of mentoring in the learning environment (SMILE): A randomized evaluation of the effectiveness of school-based mentoring. *Prevention Science, 9*(2), 99-113.

